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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,059	09/25/2003	Syohji Tomita	1248-0669P	2413

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EXAMINER

LEE, SUSAN SHUK YIN

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.D.

Office Action Summary

Application No.

10/670,059

Applicant(s)

TOMITA ET AL.

Examiner

Susan S. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 11-19, 28-31, 33 and 38 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8-10, 20-27, 32, 34-37 and 39-51 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/18/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claims 5, 9, 10, and 45-51 are objected to because of the following informalities:

As to claim 5, line 5, "an break-down" is incorrect.

As to claim 9, line 5, "the non-image region" lacks antecedent basis.

As to claim 45, lines 18-19, "the developer supplying means" lacks antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (Japan, 8-194418).

Nakamura et al. discloses an alternating current power source 131 that is applied to a cleaning brush roller 124 of a cleaning device of an image forming body. The cleaning brush roller 124 reads on the instant invention's "agitating member" because as the bristles clean off the surface of a photoreceptor layer 4, the bristles are moving the residual toner or agitating them to move towards the bristles. The area where the brush 124 contacts the surface of the photoreceptor layer 4 is the attracting section.

The power source 131 applies positive and negative voltages on the cleaning brush roller 124. Note abstract.

Claims 1-4, 7, and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mishina et al. (Japan, 8-248849).

Mishina discloses a cleaning device with a brush or agitator 26 and a cleaning brush 22. The agitator 26 has a power source that is connected to the agitator. The power source has an AC voltage 30 superimposed with a DC voltage 28. The brush 22 has a power source that is connected to the brush that aid in attracting the toner particles away from the image carrier. The brush 22 reads on the instant invention's attracting section. The power source with AC voltage 30 superimposed with a DC voltage 28 is inherent to apply an alternating voltage with polarity that can be switched to the agitator 26. The direction of rotation of the brush 22 opposite of the direction of rotation of image carrier 10 as shown in Fig. 1. Note abstract.

Claims 17-19, 30, 31, 33, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al. (4,755,853).

Shimizu et al. discloses a device for removal of residual toner from a photosensitive drum 1. The device has an electrification roller 6 that contacts the photosensitive drum 1 and rotates against the rotation of the drum 1 (note Fig. 1); a first bias voltage is applied to roller 6 so that the residual toner is electrostatically collected by the roller 6; and a retrieval conductive roll or recovering member 7 is applied a second bias voltage so that the toner that is on the roller 6 be collected off the roller 6. The casing 5 (note column 3, lines 65-68) reads on the instant invention's developer

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tank (claim 18) and the recovering member 7 is made of metal and has a smooth surface. Note column 6, lines 34-45.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 7, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (Japan, 418) in view of Higo et al. (Japan, 2000-276020).

Nakamura et al., as discussed above, differs from the instant invention by not disclosing an agitating member located in a housing for covering the agitating member.

Higo et al. discloses a cleaning device with a brush or agitating roller 62 having an AC voltage superposed with a DC voltage supply and a housing unit housing the agitating roller. Note abstract and Figs. 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Nakamura et al. with that of Higo et al. so that excellent cleaning performance can be obtained as disclosed by Higo et al..

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mishina et al. (Japan, 849) in view of Higo et al. (Japan, 2000-276020).

Mishina et al., as discussed above, differs from the instant invention by not disclosing a housing for covering the agitating member.

Higo et al. discloses a cleaning device with a brush or agitating roller 62 having an AC voltage superposed with a DC voltage supply and a housing unit housing the agitating roller. Note abstract and Figs. 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Mishina et al. with that of Higo et al. so that excellent cleaning performance can be obtained as disclosed by Higo et al..

Claims 17-19, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki (2002/0106210) in view of Shimizu et al. (4,755,853).

Oki discloses an image forming apparatus using a reversal developing process (note column 1, paragraph [0016]) with a photosensitive drum 301 and a cleaning apparatus 310 for removing any untransferred toner on the photosensitive drum 31. Note column 6, paragraph [0098].

Oki differs from the instant invention by not disclosing an electrification roller for attracting the foreign material that is on the image holding body; and a cleaning section for cleaning a surface of the electrification roller.

Shimizu et al. discloses a device for removal of residual toner from a photosensitive drum 1. The device has an electrification roller 6 that contacts the photosensitive drum 1 and rotates against the rotation of the drum 1 (note Fig. 1); a first

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bias voltage is applied to roller 6 so that the residual toner is electrostatically collected by the roller 6; and a retrieval conductive roll or recovering member 7 is applied a second bias voltage so that the toner that is on the roller 6 be collected off the roller 6. The casing 5 (note column 3, lines 65-68) reads on the instant invention's developer tank (claim 18) and the recovering member 7 is made of metal and has a smooth surface. Note column 6, lines 34-45.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Oki with that of Shimizu et al. so that a stable cleaning capacity over a long period of time can be obtained as disclosed by Shimizu et al. (note column 2, lines 5-8).

Allowable Subject Matter

Claims 45-51 are allowed over the prior art of record.

Claims 5, 6, 8-10, 20-27, 32, 34-37, and 39-44 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tsuru (Japan, 026), Okano et al., Watanabe et al. and Sasai disclose art in cleaner-less systems. Yamane et al., Danzuka, and Sawada disclose art in cleaning the charging device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 571-272-


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2137. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 571-272-2136 or 571-272-2800 (Ext. 52).

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Susan S. Lee
Primary Examiner
Art Unit 2852

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